

CYPRAEA TIGRIS Linnaeus. Syst. Nat., p. 1176, 1767

This is the largest and possibly the rarest of the Hawaiian *Cypraea*. Mr. David Thaanum has one specimen in his collection that was collected alive by Mr. Thaanum and Mr. Dranga on the reef at Lahaina, Maui, 1936. This is the first authentic record of this species being taken alive in the Hawaiian Islands. One specimen was taken alive by two men with a diving helmet off the Waikiki reef in front of the Royal Hawaiian Hotel, 1936. This specimen is now in Mr. Ted Dranga's collection.

CYPRAEA VITELLUS Linnaeus. Syst. Nat., p. 1176, 1767

Several specimens have been collected in the fossil state on Oahu.

It is very rarely taken alive. Mr. Ted Dranga has two individuals collected by Mrs. Paul Byer on the reef at Moku O Loe Islet in Kaneohe Bay, Oahu.

Mr. Jens M. Ostergaard has in his collection two specimens which he himself took on the Waikiki reef, Oahu.

The author has one specimen in his collection that was collected by Mrs. R. T. Christofferson on Moku O Loe Islet reef in Kaneohe Bay, Oahu in 1927, and one specimen that was dredged from Honolulu Harbor, Oahu.

Mr. David Thaanum has three specimens taken in Kaneohe Bay, Oahu, 1916.

CYPRAEA CHILDRENI Gray. Zool. Journal, vol. i, p. 518.

Mr. Jens M. Ostergaard collected two dead specimens from the Honolulu Harbor dredgings, and has observed a number in the fossil state in the limestone outcroppings on the island of Oahu.

GONIOBASIS COLUMBIENSIS WHITEAVES

BY CALVIN GOODRICH

Through the kindness of Mr. Aurèle La Rocque of the National Museum of Canada, I have been privileged to examine the types of *Goniobasis columbiensis* Whiteaves. The species was described and figured in the NAUTILUS, 19, 1905: 61, 62. The specimens had been collected twenty-two years before this, the locality being

given as "Headwaters of the Columbia River, at Upper Columbia Falls, in the East Kootenay District of British Columbia."

Whiteaves said he had thirty-seven individuals. Those now in the type lot number twenty-seven. No measurements are supplied, but those of one figure are approximately 23.75 mm. altitude, 13 mm. diameter; of the other 19 mm. altitude and 11.50 mm. diameter. The largest at present in the type lot is 11.25 by 8 mm. The average for the ten largest is 12.60 by 7.02 mm. It is likely that the figures represent enlargements rather than missing specimens, and that the measurements of the shells illustrated were not taken for making the drawings.¹

The spiral ridges or keels of Whiteaves' description, observed in the immature shells, are merely a feature of adolescence and virtually a constant in *Goniobasis*. In these shells, they are angulations following the carinae of infancy and preceding the rounding of the adult body whorl. The "very numerous and closely disposed striae" are microscopic, as Whiteaves says, but they do not occur in all the specimens as might be inferred from the description. The ratio of specimens so sculptured to the unsculptured mollusks is one to three. Two other shells have faint spiral malleations on the upper whorls. Spiral striae sometimes appear in species that are ordinarily smooth. All members of a colony may have them, which would suggest a racial modification, or only a few individuals, as in these types of *columbien-sis*. They could be caused simply by a slight folding of the mantle edge where the calcic glands are concentrated. Whiteaves states that the opercula were not preserved. They are still present, but are deeply withdrawn in the shells. One was obtained by soaking in water and exercising a little patient manipulation. It is neomelanian, and as regards the position of the nucleus and the coiling of the spiral lines it is unlike the operculum of any West Coast *Goniobasis* with which I have been able to compare it.

Comparison of the mollusk is made with *G. livescens* (Menke) by Whiteaves, *livescens* being the common pleurocerid of Ontario.

¹ Three of the original specimens were presented to the Acad. Nat. Sci. Phila. by Whiteaves, (No. 90181). The adult figured measures 13.8 mm. long, 8.5 mm. wide, the smaller, immature shell 11.4 × 6.5 mm.; figures drawn by the editor.—Ed.

Shells closely resembling *columbiensis* have been taken in Niagara River and the Maitland River at Goderich, Ontario; also in streams of Ohio discharging into Lake Erie and in the upper Wabash River. My own belief is that *columbiensis* is, in fact, *livescens*, and that in the twenty-two years aforementioned—time enough for many grievous things to happen in a museum—labels were mixed and the shells became finally and improperly assigned to British Columbia. There is, of course, the possibility that the species is a depauperate form of some member of the *G. plicifera* group which inhabits the Columbia River. *G. aterina* Lea, *acutacarinata* (Lea) and *proxima* (Say) of the southern Appalachian country are depauperates as is also *G. nigrina* (Lea) of northern California. Improperishment is marked in *aterina*, for one thing, by a flattening of the whorls; in *acutacarinata* by an extreme convexity of the whorls and in *nigrina* by convexity somewhat less pronounced. The whorls of depauperate examples of *livescens*, occurring sometimes in springs, are flattened, tightly-coiled.

G. columbiensis has the slightly produced aperture, the sinuous lip, the flattened upper whorls, the neo-melanian operculum and the general appearance of *G. livescens*.

A CALIFORNIAN POMATIOPSIS

BY H. A. PILSBRY

POMATIOPSIS CHACEI, new species.

The shell is somewhat similar to *P. californica* Pils., but differs by being of more slender shape and in sculpture. It is brownish olive with whitish apex, composed of 5 strongly convex whorls, the apex rather obtuse. Sculpture of very light wrinkles of growth and a close, fine, microscopic spiral striation, the striae waved, visible chiefly on the last whorl. Umbilicus moderately open. Aperture of the usual widely ovate shape, brown within, the peristome simple, the columellar and parietal margins thin. Length 4.4 mm. diam. 2.7 mm., length of aperture 1.8 mm.

From a swampy place 6 miles up the highway from Klamath, Humboldt Co., California, collected by E. P. and E. M. Chace, 1933 and 1936. Type and paratypes 168402 ANSP., other specimens in the Chace collection.